

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

D639428362

FACILITY: Mid Michigan Medical Center - Gratiot	SRN / ID: D6394
LOCATION: 300 Warwick Dr. ALMA	DISTRICT: Lansing
CITY: ALMA	COUNTY: GRATIOT
CONTACT: Robert Francisco, Director of Facilities	ACTIVITY DATE: 01/15/2015
STAFF: Michelle Luplow	COMPLIANCE STATUS: Compliance
SUBJECT: Unannounced, scheduled compliance inspection.	SOURCE CLASS: Minor
RESOLVED COMPLAINTS:	

Inspected by: Michelle Luplow

Personnel Present: Robert Francisco, Director of Facilities (bob.francisco@midmichigan.org)
Garett Bass, Biomedical Services

Other Relevant Personnel:

Mike Evitts, Engineering Department Supervisor (mike.evitts@midmichigan.org)

Purpose: Conduct an unannounced, scheduled compliance inspection by determining compliance with MidMichigan Medical Center's (MidMichigan) Permit to Install (PTI) No. 299-93 for a EO sterilizer with abator system. The facility was last inspected in March of 1987, prior to the issuance of the permit, for compliance related to an incinerator that has since then been removed from the site.

Facility Background/Regulatory Overview: MidMichigan is a hospital. The permitted EO sterilizer is used for sterilizing any medical equipment that can't be sterilized at or above 270°F (steam sterilization), such as cameras. EO sterilizers operate at lower temperatures.

In addition to the EO sterilizer MidMichigan also has 5 boilers and 5 generators onsite. See Tables 1 and 2 (all information provided in the tables was either collected onsite from boiler plates or provided by Mike Evitts). MidMichigan is in the process of conducting a potential to emit (PTE) for the facility to determine if major source threshold levels have been met or have been exceeded. Upon receipt of the PTE demonstration the AQD will determine if MidMichigan should apply for an opt-out permit.

RICE MACT ZZZZ Emergency Engines at Area Source of HAP

MidMichigan has 5 emergency generators (see Table 1). The Cummins QSX15-G9 750 HP engine is subject to the NESHAP for existing emergency compression ignition engines, greater than 500 HP constructed before June 12, 2006. The Cummins 6BT5.9-G6 (170 HP) and Cummins WSG 1068 (176 HP) engines are subject to the NESHAP for existing emergency compression ignition engines, less than or equal to 500 HP, and constructed before Jun 12, 2006. The State of Michigan currently does not have the delegated authority to enforce this area source MACT. "Emergency engines" are defined as not being operated for more than 100 hours per calendar year for readiness testing and maintenance checks, and may be operated up to 50 hours per calendar year for non-emergency situations (the 50 hours is included in the aforementioned 100 hours per calendar year). It is MidMichigan's responsibility to determine if they meet the definition of emergency engine for each of their RICE MACT ZZZZ-subject sources.

NSPS for Compression Ignition InternalCombustion Engines, Subpart IIII

The two 1500 HP engines are subject to NSPS Subpart IIII. IF MidMichigan needs to obtain an opt-out permit for the facility, conditions for NSPS compliance will likely be included in the permit. Upon review of the regulation MidMichigan is subject to the following Subpart IIII sections: 40 CFR 60.4205(d), §60.4205; §60.4206; §60.4207(d); §60.4209(a); §60.4211(a), (d), (f), (g); §60.4213; §60.4214(b), (d); §60.4218.

Boiler MACT NESHAP JJJJJJ for area sources of HAPs

All 5 boilers are exempt from the Boiler MACT NESHAP Subpart JJJJJJ because they are classified as "gas-fired boilers" as defined in 40 CFR 63.11237. To be considered a gas-fired boiler, the boiler must burn gaseous fuels not combined with any solid fuels and burn liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. The periodic testing of liquid fuel should not exceed a combined total of 48 hours during any calendar year.

On September 13, 2011 MidMichigan Medical Center (then Gratiot Medical Center) sent a notification to the AQD office for the NESHAP JJJJJJ Boiler MACT indicating that they were subject to its regulations. However, based on my review of the Boiler MACT JJJJJJ, MidMichigan Medical would not be subject because the boilers meet the regulation's the exemption definition of a "gas-fired boiler" (any boiler that burns gaseous fuels not combined with any solid fuels

and burns liquid fuel only during periods of gas curtailment, etc. Periodic testing of fuel should not exceed 48 hours per calendar year). M. Evitts said that none of the boilers have used fuel oil in the past year.

NSPS for Small Industrial-Commercial-Institutional Steam Generating Units Subparts Da, Db, Dc

The 3 Kewanee boilers are exempt from the NSPS Subparts Da, Db, and Dc because they are smaller than 10 MMBTU/hr. The two Cleaver-Brooks boilers are subject to NSPS subpart Dc because they are less than 100 MMBTU/hr, but greater than or equal to 10 MMBTU/hr, and have the capability of burning fuel oil. The NSPS Dc says that they must meet a 0.5 wt% sulfur content of the fuel oil as an alternative to SO2 emission limit testing. M. Evitts said the fuel oil sulfur content is 5 ppm (which is 0.005 wt%). Because MidMichigan's fuel oil meets the 0.5 wt% sulfur content limit, it is not subject to the PM limit in NSPS Dc. MidMichigan is subject to all applicable notification and recordkeeping requirements as specified in 40 CFR 60.48c.

NESHAP Subpart O – Ethylene Oxide Emissions Standards for Sterilization Facilities

MidMichigan is not subject to 40 CFR 63 Subpart O because the subpart does not apply to "ethylene oxide sterilization operations at stationary sources such as hospitals, doctors offices, clinics, or other facilities whose primary purpose is to provide medical services to humans or animals." (40 CFR 63.360(e))

Equipment located onsite (in addition to EO sterilizer)

Table 1. Emergency Generators (based on monthly test logs provided by MidMichigan; see attachments)

Engine	Serial #	HP	KW	MMBTU/hr	Fuel	PTI No.	Installation Date	Manufacture Date	Federal Regulation
Cummins QST30-G5	37228493	1500	800	2.7	Diesel	Exempt R285(g)	9/2007	5/2007	NSPS Subpart IIII (emergency, 30 L cylinder displacement)
Cummins QST30-G5	37228519	1500	800	2.7	Diesel	Exempt R285(g)	9/2007	5/2007	NSPS Subpart IIII (emergency, 30 L cylinder displacement)
Cummins QSX15-G9 NR2	79017789	750	500	1.7	Diesel	Exempt R285(g)	5/2004	8/2003	Area source RICE NESHAP ZZZZ for existing Emergency CI Engines >500 HP
Cummins 6BT5.9-G6	46329015	170	100	0.3	Diesel	Exempt R285(g)	1/2005	9/2003	Area source RICE NESHAP ZZZZ for existing Emergency CI Engines < 500 HP (pre June 2006)
Cummins WSG 1068	052539493	176	100	0.3	Diesel	Exempt R285(g)	5/2005	1/2005	Area source RICE NESHAP ZZZZ for existing Emergency CI Engines < 500 HP (pre June 2006)

Table 2. Boilers

Boiler	Serial #	BTU/hr	Fuel	PTI No.	Manufacture Date	Federal Regulation
Kewanee	NB18256	6,000,000	Sweet Natural Gas	Exempt R282(b)(i)	1954	Exempt from NSPS Da, Db, Dc; Exempt from Boiler MACT Subpart JJJJJ (classified as "gas-fired boiler")
Kewanee	NB18257	6,000,000	Sweet Natural Gas	Exempt R282(b)(i)	1954	Exempt from NSPS Da, Db, Dc; Exempt from Boiler MACT Subpart JJJJJ (classified as "gas-

Kewanee	NB21134	6,000,000	Sweet Natural Gas	Exempt R282(b)(i)	1954	fired boiler") Exempt from NSPS Da, Db, Dc and from Boiler MACT Subpart JJJJJJ (classified as "gas-fired boiler")
Cleaver Brooks CBI-200-250-150	OL105029	10,000,000	Sweet Natural Gas & Fuel Oil #2	Exempt R282(b)(ii)	2007	NSPS Subpart Dc; Exempt from Boiler MACT Subpart JJJJJJ (classified as "gas-fired boiler")
Cleaver Brooks CBI-200-250-150	OL105830	10,000,000	Sweet Natural Gas & Fuel Oil #2	Exempt R282(b)(ii)	2007	NSPS Subpart Dc; Exempt from Boiler MACT Subpart JJJJJJ (classified as "gas-fired boiler")

**** It appears, based on the information provided by MidMichigan that the units listed in Tables 1 & 2 meet the exemptions noted in the tables.**

Inspection: This was an unannounced scheduled compliance inspection. At approximately 10:30 p.m. on January 15, 2015 I met with Bob Francisco, MidMichigan's Facilities Director. (When arriving at the hospital, go to the front desk to call directly to B. Francisco's phone line to have him meet you in the lobby). I provided B. Francisco with a DEQ "Environmental Inspections: Rights and Responsibilities" brochure and a May 2012 Permit to Install Exemption Handbook, as well as a copy of PTI No. 299-93 for the EO Sterilizer with abator system.

PTI No. 299-93 – 3M Steri-Vac Ethylene Oxide (EO) sterilizer with Donaldson catalytic abator

G. Bass, B. Francisco and I verified that the unit permitted in 1993 is the same unit that is currently present onsite (Model # 487AGP and Serial # 701517). G. Bass said that it takes 12 hours for one batch of equipment to be sterilized, and it takes an additional 3 hours for the unit to treat and exhaust the gas in the abator system.

The AQD has never requested that a stack test for EO emissions be conducted to determine the control efficiency of the catalytic abatement system thus the emission rate of EO from the stack. The permit requires that this be done only upon request from the division.

MidMichigan is required to keep the monthly sterilant usage data for at least two years. Patty, an employee in the sterilization department, provided me with purchase records of EO from January 2014 – January 15, 2015. She said that each canister holds 100 grams (3.52 oz) of EO. The purchase records show that each purchase consists of a box of 12 canisters. For the past year MidMichigan has purchased/used 216 canisters of EO. MidMichigan is in compliance with the recordkeeping requirement (see attached purchase record).

MidMichigan is also required to ensure that the catalytic abatement system on the sterilizer unit is installed and operating properly. G. Bass said that 3M services their unit: they inspect the unit 2 times per year and replace parts in the sterilizer semi-annually. Additionally, there are internal services that are also performed on the unit. Larry George, 3M's service provider for the EO unit said that he replaces/inspects all hoses, fittings, etc. He said they do not check to determine if the catalyst/abator portion of the unit is operating properly, however. I have requested from B. Francisco a determination by MidMichigan that demonstrates that the catalyst is still working to its maximum capacity (i.e. that it hasn't been blinded or poisoned/is still efficiently destroying the ETO before being exhausted to atmosphere). I will provide a follow-up once this information is received.

At this time MidMichigan is in compliance with all state and federal regulations; however, future determinations will be made once additional information has been received.

NAME MudMy M Lopez

DATE 2-10-15

SUPERVISOR B.M.